

Notice of Allowability

Application No.

10/616,368

Examiner

Krishnan S. Menon

Applicant(s)

VERPOORT ET AL.

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment of 7/31/06.
2. ☒ The allowed claim(s) is/are 24,25,27,37,40-43,46,47,49-51 and 54; RENUMBERED 1-14.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michelle LeCointe on 8/4/06.

The application has been amended as follows:

Claims were amended to make the application in condition for allowance.

Amended claims list follows on a fresh page below.

Amended Claims List

1-23. (Cancelled)

24. (Currently Amended) A fluid filter material comprising an oxygen gas plasma-treated polyurethane non-woven porous fabric layer having a mean pore diameter between 5 and 15 μm , wherein the polyurethane is not further modified by radiation/graft polymerization after oxygen plasma treatment, and wherein the filter shows greater than 2 log reduction of leukocytes and less than 15% reduction of platelets.

25. (Currently Amended) The filter material of Claim 24 ~~Claim 36~~, wherein the oxygen gas plasma-treated polyurethane is more hydrophilic than untreated polyurethane.

26. (Cancelled)

27. (Previously Presented) The filter material of Claim 24, wherein the fabric is operable to selectively leukodeplete a fluid containing platelets when the fluid flows through the fabric.

28-36. (Cancelled)

37. (Previously Presented) The filter material of Claim 24, wherein platelets do not substantially adhere to the oxygen gas plasma-treated fabric.

38-39. (Cancelled).

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40. (Currently Amended) The filter material of Claim 24 ~~Claim 39~~, wherein the mean diameter of the pores is approximately 13 μm .

41. (Currently Amended) The filter material of Claim 24 ~~Claim 39~~, wherein the mean diameter of the pores is approximately 8 μm .

42. (Currently Amended) A fluid filter material comprising an oxygen gas plasma-treated polyurethane non-woven porous fabric layer having a mean pore diameter between 5 and 15 μm , wherein the oxygen gas plasma-treated polyurethane is more hydrophilic than untreated polyurethane, and wherein the polyurethane is not further modified by radiation/graft polymerization after oxygen plasma treatment, and wherein the filter shows greater than 2 log reduction of leukocytes and less than 15% reduction of platelets.

43. (Previously Presented) The filter material of Claim 42, wherein the fabric is operable to selectively leukodeplete a fluid containing platelets when the fluid flows through the fabric.

44-45. (Cancelled)

46. (Previously Presented) The filter material of Claim 42, wherein platelets do not substantially adhere to the oxygen gas plasma-treated fabric.

47. (Previously Presented) The filter material of Claim 42, wherein a mean diameter of the pores is large enough to allow passage of substantially all platelets in a fluid, but small enough to prevent passage of leukocytes in the fluid.

48. (Cancelled)

49. (Currently Amended) The filter material of Claim 42 ~~Claim 48~~, wherein the mean diameter of the pores is approximately 13 μm .

50. (Currently Amended) The filter material of Claim 42 ~~Claim 48~~, wherein the mean diameter of the pores is approximately 8 μm .

51. (Currently Amended) A fluid filter material comprising an oxygen gas plasma-treated polyurethane non-woven porous fabric layer having a mean pore diameter between 5 and 15 μm , wherein the oxygen gas plasma-treated polyurethane is more hydrophilic than untreated polyurethane, wherein the fabric is operable to selectively leukodeplete a fluid containing platelets when the fluid flows through the fabric, wherein platelets do not substantially adhere to the oxygen gas plasma-treated fabric, and wherein the polyurethane is not further modified by radiation/graft polymerization after oxygen plasma treatment, and wherein the filter shows greater than 2 log reduction of leukocytes and less than 15% reduction of platelets.

52-53. (Cancelled)

54. (Currently Amended) A fluid filter material comprising an oxygen gas plasma-treated polyurethane non-woven porous fabric layer having a mean pore diameter between 5 and 15 μm , wherein the oxygen gas plasma-treated polyurethane is more hydrophilic than untreated polyurethane, wherein the fabric is operable to selectively leukodeplete a fluid containing platelets when the fluid flows through the

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fabric, wherein platelets do not substantially adhere to the oxygen gas plasma-treated fabric, wherein the oxygen gas plasma-treated fabric comprises pores having a mean diameter of large enough to allow passage of substantially all platelets in a fluid, but small enough to prevent passage of leukocytes in the fluid, and wherein the polyurethane is not further modified by radiation/graft polymerization after oxygen plasma treatment, and wherein the filter shows greater than 2 log reduction of leukocytes and less than 15% reduction of platelets.

Allowable Subject Matter

Claims 24,25,27,37,40-43, 46,47,49-51 and 54 are allowed.

The following is an examiner's statement of reasons for allowance:

The closest references are Kuroki, Katsurada, Kraus and the Kayirhan article.

Kuroki teaches limiting the pore size of the filter material to 1-5 μm , and the material is not non-woven; Kraus teaches only less than 2-log reduction (98.6% in example 5, the only example which uses polyurethane non-woven), and does not teach oxygen plasma treatment; Kayirhan reference while teaching the oxygen plasma treatment to improve the hydrophilic character and reducing protein binding would not suggest that doing so would improve the passage of platelets or increase in the retention of leukocytes for one to combine with any of the other references. Katsurada does not specifically teach non-woven polyurethane, but only teaches that non-woven is equivalent to the other structures for forming filters. There is no motivation to combine the references in any other way to arrive at the claimed invention.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Krishnan S Menon
Examiner
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8/8/06